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United States Patent [19]**Schertler**[11] **Patent Number:** **5,245,736**[45] **Date of Patent:** **Sep. 21, 1993**[54] **VACUUM PROCESS APPARATUS**[75] **Inventor:** Roman Schertler, Wolfurt, Austria[73] **Assignee:** Balzers Aktiengesellschaft,
Liechtenstein, Liechtenstein[21] **Appl. No.:** 888,111[22] **Filed:** May 26, 1992[30] **Foreign Application Priority Data**

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[51] **Int. Cl.³** B23B 15/00; B25B 11/00[52] **U.S. Cl.** 29/33 P; 29/563;
29/559; 269/21[58] **Field of Search** 29/33 P, 563, 559;
269/21, 57, 61; 279/3[56] **References Cited****U.S. PATENT DOCUMENTS**

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Edwards & Lenahan[57] **ABSTRACT**

The invention proceeds from a vacuum process apparatus for an article which is processed or treated, resp. at two stations, whereby each station has a charging and/or removing opening for the article. A transporting device is supported for rotation and includes a supporting portion which is successively moved onto the openings of the stations. The process plant is designed in such a manner that the surface normals determined by the surfaces of the openings and the space axis defined by the axis of rotation of the transport device do not run parallel and rather enclose together an angle of 90° or 45°. By such an arrangement it is possible to design extremely compact vacuum vapor deposition apparatuses having a plurality of individual stations, whereby additionally short transporting distances are obtainable and the volumes to be conditioned can be minimized.

29 Claims, 5 Drawing Sheets